

CLAIMS

1. A step pile fabric obtained by treating a pile fabric comprising an acrylic shrinkable fiber, which comprises an acrylic copolymer comprising 0.5 to 10 wt% of a sulfonic acid group-containing monomer, dyed at 55 to 85°C, with dry heat at 110 to 150°C for 20 minutes or less, the acrylic shrinkable fiber having a shrinkage percentage of 18% or more calculated by the following formula (1):

$$\text{Shrinkage percentage (\%)} = 100 \times (1 - S_a/S_b) \quad (1)$$

wherein  $S_b$  represents a pile length of the down hair component before the dry heat treatment, and  $S_a$  represents a pile length of the down hair part (component) after the dry heat treatment.

2. The step pile fabric according to claim 1, wherein the acrylic shrinkable fiber comprises an acrylic copolymer and is dyed with a cationic dye.

3. The step pile fabric according to claim 1 or 2, wherein the acrylic copolymer comprises 60 to 99 parts by weight of a copolymer (I) comprising 35 to 98 wt% of acrylonitrile, 0 to 5.0 wt% of a sulfonic acid group-containing monomer and 2 to 65 wt% of other vinyl monomer(s), and 1 to 40 parts by weight of a copolymer (II) comprising 0 to 90 wt% of acrylonitrile, 2 to 40 wt% of a sulfonic acid group-containing monomer and 0 to 80

wt% of other vinyl monomer(s), wherein the copolymers (I) and (II) are 100 parts by weight in total.

4. A process for producing the step pile fabric according to claim 1, 2 or 3, comprising the steps of: dyeing an acrylic shrinkable fiber comprising an acrylic copolymer comprising 0.5 to 10 wt% of a sulfonic acid group-containing monomer at 55 to 85°C; blending the acrylic shrinkable fiber with a non-shrinkable fiber to produce a pile fabric; and treating the resulting pile fabric with dry heat at 110 to 150°C for 20 minutes or less to cause the acrylic shrinkable fiber to have a shrinkage percentage of 18% or more.